

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 40cdh/229219	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/EP2004/002964	International filing date (day/month/year) 20.03.2004	Priority date (day/month/year) 05.07.2003
International Patent Classification (IPC) or national classification and IPC F15B1/22, F15B1/2		
Applicant HYDAC TECHNOLOGY GMBH		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of 8 sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4.	This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input checked="" type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
 - ☐ international search (Rule 12.3 and 23.1(b))
 - ☐ publication of the international application (Rule 12.4)
 - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
 - ☐ the international application as originally filed/furnished
 - ☒ the description:
 - pages 1-10 _____ as originally filed/furnished
 - pages* _____ received by this Authority on _____
 - pages* _____ received by this Authority on _____
 - ☒ the claims:
 - nos. 1-9 _____ as originally filed/furnished
 - nos.* _____ as amended (together with any statement) under Article 19
 - nos.* _____ received by this Authority on _____
 - nos.* _____ received by this Authority on _____
 - ☒ the drawings:
 - sheets 1/1 _____ as originally filed/furnished
 - sheets* _____ received by this Authority on _____
 - sheets* _____ received by this Authority on _____
 - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages _____
 - ☐ the claims, nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages _____
 - ☐ the claims, nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-9	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

1 Reference is made to the following documents:

D1: DE 196 16 501 C (HYDAC TECHNOLOGY GMBH)
18 September 1997 (1997-09-18)D2: WO 02/40871 A (HYDAC TECHNOLOGY GMBH; WEBER
NORBERT (DE)) 23 May 2002 (2002-05-23), cited
in the applicationD3: US-A-2 753 892 (EDWIN DEARDORFF CLINTON ET
AL) 10 July 1956 (1956-07-10)D4: DE 101 61 475 A (ROETELMANN GMBH) 4 July 2002
(2002-07-04), cited in the applicationD6: DE 12 31 163 B (CATERPILLAR TRACTOR CO)
22 December 1966 (1966-12-22)2 The present application does not meet the
requirements of PCT Article 33(1) because the
subject matter of claims 1-9 does not involve an
inventive step (PCT Article 33(3)).

2.1 Independent claim 1

2.1.1 Document D1 discloses (the references between
parentheses refer to that document; see, in

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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particular, the drawing):

hydraulic accumulator, more particularly a piston-type accumulator, comprising an accumulator housing (12, 14, 16) with at least one gas chamber (20) arranged therein and with a fluid chamber (22), said chambers being separated one from the other by a separating element (18), particularly in the form of a piston, (...) **the hydraulic accumulator** comprising a ball valve (42), which in the open position or closed position releases and blocks, respectively, a fluid-conducting path () from the interior of the accumulator housing (12, 14, 16) to the outside.

2.1.2 The hydraulic accumulator as per claim 1 differs therefrom in that the one free end of the accumulator housing is closed by a valve block comprising a ball valve.

2.1.3 This results in a compact and robust arrangement of hydraulic accumulator and ball valve, with, in addition, fewer potential leakage points.

2.1.4 The invention can therefore be considered to address the problem of devising an arrangement consisting of a hydraulic accumulator and a ball valve, which is improved in relation to the prior art in respect of space requirements and reliability.

2.1.5 A person skilled in the art confronted with the

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problem indicated under point 2.1.4 would recognise that a structure such as specified in document D2 (see, in particular, the drawing), in which the hydraulic accumulator is not "open" piped with one or more valves, but in which rather the valves are incorporated in a free end of the accumulator housing, would solve the above-mentioned problem. Even without being aware of document D2, such a solution is a common structural measure which would lead a person skilled in the art to a hydraulic accumulator as per claim 1 without thereby being inventive. Figure 1 of document D3 also suggests such a structure.

- 2.2 Dependent claims 2-9 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT requirements for inventive step. The additional features in claims 2-9 are either known from the cited prior art or are obvious to a person skilled in the art. It would have been easy for a person skilled in the art to apply those features to like effect to a hydraulic accumulator according to document D1 and to thus arrive at a hydraulic accumulator as per claim 1 without thereby being inventive.

2.2.1 Claims 2 and 3

The additional features of these claims concern the position in which the ball valve is

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incorporated and the course of the fluid-conducting path in relation to the accumulator housing. These are simple structural measures of the kind that a person skilled in the art routinely implements in order to satisfy as much as possible requirements relating to, for example, incorporation space, manufacturing possibilities and manufacturing costs.

2.2.2 Claim 4

A person skilled in the art is familiar with screw-in parts and the use thereof (see, for example, figure 1 of document D4).

2.2.3 Claim 5

It is common in the prior art and generally known to actuate a ball valve in particular or a valve in general using a handle (see, for example, document D4, column 3, paragraph 18 and document D1, the drawing, reference sign 64).

2.2.4 Claim 6

A person skilled in the art would routinely set the position of the handle according to individual requirements (including incorporation space, manufacturing possibilities and ergonomics), without thereby being inventive.

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2.2.5 Claims 7 and 8

Although the additional features of these claims are not disclosed in their entirety by the cited prior art, they are suggested by document D2 (see, in particular, the drawing and page 5, lines 10-15).

2.2.6 Claim 9

The additional features of this claim are known from document D6 (see column 3, lines 20-29, column 4, lines 19-37 and figures 1-5).

3 Miscellaneous

It is not currently clear which part of the application could form the basis for a new claim that would meet the PCT requirements in respect of novelty and inventive step.

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Contrary to PCT Rule 5.1(a)(ii), the description does not cite documents D1, D3 and D6 or indicate the relevant prior art disclosed therein.